from using right-of-way in cases where Ameritech owned the underlying property outright rather than as an easement or license in property owned by a third party. Similarly, the Indiana Utility Regulatory Commission required Ameritech to grant AT&T access to property owned by Ameritech for purposes of rights of way. Decision of November 27, 1996, Cause No. 40571-INT-01.

14. Certain other terms are relevant to a full understanding of a new entrant's requirements, and an incumbent LEC's responsibilities, regarding nondiscriminatory to network distribution structure. These included "attachments," "conduit,"and "make ready work." "Attachments" are broadly defined to mean telecommunications equipment and related facilities. They include items such as mechanical hardware, grounding and transmission cable, and equipment boxes attached to a utility pole, placed in conduit, innerduct, manholes and other similar structures, or, in some cases in riser space or other above ground locations. Attachments may also involve usage of the ground itself for burying cable or placing other structures on or in the right-of-way.

15. The term "conduit" refers to protected tubing or piping constructed of metal, cement or plastic, which is used to house communications or electrical cables. While it is usually below ground, it can be above ground (e.g. inside buildings) and may contain

one or more inner ducts for the placement of cable. Conduit systems involve any combination of reinforced passage or opening in, on, under or through the ground or a structure capable of containing communications facilities, but not limited to: main conduit and innerduct; laterals to poles and into buildings; building entrance ducts and conduit; conduit or riser space in third party buildings, which are owned or controlled by the incumbent telecommunications provider; conduit or ducts connecting central office cable vaults and entrance facilities; as well as conduit connecting manholes. Conduit systems are found within cities, under road and rail crossings, under rivers and streams, and in other locations where repeated excavation for maintenance or replacement of cable facilities is not desired or where added protection for the cables is needed. It is important to note that in many areas underground telephone cables are simply buried in trenches dug in the right of way itself and are not enclosed within conduit or attached to poles. Thus access to conduit itself may not be of any value in areas where the existing telephone distribution facilities consist of cable buried in the right-of-way.

16. "Make ready work" is the work necessary to prepare, provision and where necessary, modify pathway facilities to create additional capacity. Generally, this work includes, but is not limited to, inspections, rodding, swabbing, placement and removal

of innerduct and/or cable, rearrangement or transfer of existing facilities, and any other changes or improvements required to accommodate the placement of the attaching party's facilities. In the case of rights of way, it may include trenching and other work to build new conduit, new manholes, controlled environment vaults and other facilities to be used to house the new entrant's distribution facilities or in some cases, to simply bury new underground cable.

17. The Commission cannot conclude that Ameritech has satisfied the Act's requirement that it make access to rights of way and other pathway facilities available from previous practice. For the reasons I discuss below, only a review of Ameritech's actual performance in responding to requests for access to local facilities will reveal whether Ameritech will satisfy the competitive checklist in this regard. In the past, incumbent LECs such as Ameritech have traditionally shared access to each other's pathway facilities when engaged in the provision of joint service (e.g., when neighboring telephone companies provide extended area service), or in the provision of public utility service, as when an electric company shares access to its poles with the telephone company. Incumbent LECs have also occasionally granted access to their distribution facilities to interexchange carriers operating in their serving territories. The

mechanisms historically used for such limited access have little or no bearing on the issue of the competitive checklist.

18. Now that implementation of reasonable and nondiscriminatory access to these facilities by new local exchange carriers has become the subject of considerable discussion during the transition from a monopoly to a competitive environment in the local exchange, it is necessary to see what really happens on a day-to-day basis. The practical impact of delays or disputes over the granting of access will, by their very nature, have a tendency to impede the ability of new providers to enter the market. Given Ameritech's narrow, and now rejected, view of the extent of its duties under the federal Act and the efforts it has made to impose as many hurdles as possible to effective use of its distribution facilities, it cannot be assumed that its promises of access will become fact. Thus, until such time as the new entrants are actually able to use existing Ameritech distribution facilities, including its rights-of-way, to deploy their own networks, and new entrants are able to actually use those networks to provide widespread competition to Ameritech, the effect of Ameritech's proposals governing access will remain untested. In the absence of such "field testing," Ameritech will not be able to establish to the Commission that it has met the competitive checklist with respect to this item.

19. Under these circumstances, the Commission will not be able to determine if Ameritech has satisfied the competitive checklist until it satisfied that Ameritech's actual performance measures up to the requirements of the law. Ameritech must demonstrate that it is consistently responding to requests within the 45 days time period set by the FCC rules. Ameritech must demonstrate that it is, on a regular and consistent basis, actually taking all reasonable steps to make access available, including making modifications to its poles, conduits, ducts and rights-of-way were necessary to create additional capacity. Mere promises to create a process for handling access is insufficient to demonstrate compliance. Rather, the "proof is in the pudding." Ameritech must demonstrate that it is, in fact, granting access in a non-discriminatory manner. The Commission will not be able to determine if there has been compliance with the competitive checklist on this subject until it is able to see how the process Ameritech is promising to implement works in practice. Only then will the Commission be able to decide if the process does provide access in the manner required by law.

20. Ameritech's current contracts do not necessarily provide a new entrant with the nondiscriminatory access to poles, ducts, conduits and rights of way that it will need to establish even a foothold in the local exchange market, let alone become an effective

competitor to an incumbent LEC such as Ameritech. As I discuss below, certain contract provisions, such as undefined time frames for Ameritech to complete make ready work, could easily impede the ability of new entrants to offer consumers an efficient, high quality communications service alternative.

21. Ameritech's control of distribution structures constitutes a potential barrier to AT&T's entry into the local telecommunications market. As a traditional monopoly provider of telecommunications services, Ameritech has been able to obtain access to public and private corridors necessary for the construction of critical network facilities. These have been accumulated over decades under a monopoly environment, and they are an area of great advantage to Ameritech relative to new entrants. In fact, obtaining separate routes comparable to those of incumbent local exchange carriers will in most urban areas prove nearly impossible for new entrants. Consequently, effective, facilities-based competition can be either encouraged or impeded depending upon the quality of access obtained by new entrants to these essential facilities. If facilities-based competition is to develop, distribution facilities that Ameritech established in a monopoly environment must be shared equally by all providers of telecommunications services. Although Ameritech claims it will make equal access available, the interconnection agreement does not specify time frames for the performance of many of

its duties. This failure to identify the time frames and "day-to-day" procedures applicable to access requests is remarkable in light of the fact that Ameritech has been under this statutory duty to provide access since the day the Act became law, over eight months ago. Ameritech's delay in specifying the practical means for other carriers to exercise their right to access and use Ameritech's distribution corridors and structures is indicative of the delays AT&T has experienced in its dealings with Ameritech in this area.

22. The effect of Ameritech's control of poles, conduits and other distribution facilities on the feasibility of deploying a local infrastructure is substantial and pervasive. For example, in many areas Ameritech owns, controls and maintains riser-cable duct, which is the only means other carriers have of gaining access to building tenants. The denial of access to these facilities (for example, by alleging "insufficient capacity") can make it impossible to serve large blocks of customers except through resale of Ameritech's services. Similarly, in the case of multiple dwelling units ("MDUs") where one or more tenants may want service from a new entrant, Ameritech can effectively deny access to those customers by refusing to provide space (both floor and wall space) in Ameritech's telephone closet or equipment room located in that building. In all such cases where Ameritech effectively controls access to customers

through its control of the means of access, reasonable accommodations must be made to allow new entrants to utilize Ameritech distribution facilities to connect the new entrant's facilities to the customer. This will afford new entrants the opportunity to offer competitive alternatives.

23. In addition to controlling physical access to these facilities, Ameritech also has the ability to impede access through the imposition of unreasonable rates. Therefore, if a new entrant is to build a competing network and using existing rights-of-way and attachments to Ameritech's structures, Ameritech must be required to price access to those structures at cost-based rates. The prices Ameritech proposes to charge are still unclear (Interconnection Agreement, at § 16.18 "Ameritech's charges for Structure provided hereunder shall be determined in compliance with the regulations to be established by the FCC pursuant to Section 224 of the Act."). It also appears that Ameritech is claiming that it alone will determine the amount to be charged for the "one-time administration fee" imposed on each carrier seeking access to Ameritech structure, and for access to maps, the performance of make ready work and modifications. AT&T believes that charges for all aspects of access, including access to maps, drawings and engineering information, as well as all work necessary to make capacity available, should be established by the FCC or state commissions. Ameritech

should not be placed in a position where it, alone, will decide what to charge for any portion of the access process since it has every reason in the world to seek to use such rates for its own competitive advantage and not merely to recoup its costs.

24. In order to ensure that the prices charged are nondiscriminatory and cost based, Ameritech should be required to supply cost data and information regarding imputation sufficient to demonstrate that, as the federal Act requires, the price charged to itself, and to any affiliates, is consistent with that charged to attaching parties. It is only through such a safeguard that new local exchange market entrants could hope to overcome the formidable obstacles that apply to them in obtaining access to pathway facilities.

25. AT&T must have access to full and complete information regarding pathway facilities to perform route planning for new telecommunication facilities. Route planning requires that engineers design a route by piecing together, segment by segment, available pathway segments owned and controlled by incumbent LECs such as Ameritech, in order to create a pathway to place new facilities to connect carrier's facilities and to connect to a customer. In order to accomplish this, engineers must have access to as much information regarding available pathway facilities as possible in order

to select the most efficient route from all of the available segment options. A lack of access to full, reliable, accurate and timely information regarding pathway facilities will act as an impediment to AT&T in its attempt to enter the local exchange telecommunications market on a facilities basis.

26. The capital outlay associated with the deployment of new infrastructure to permit facilities based competition in the local exchange is enormous. In order to justify capital outlays of this magnitude from a business perspective, capital must be used in the most efficient and cost effective manner possible. A poorly engineered route may unnecessarily increase the mileage of cable used or complicate the method of construction and, therefore, require excessive capital outlays to reach the same customers that could have been reached by less expensive means.

27. Ameritech has historically refused to provide AT&T with access to facility route maps or other information necessary to plan the most efficient and cost effective network possible. Now Ameritech has agreed to provide maps which contain the location of conduits and poles, but states it will restrict information "beyond location and capacity" (Affidavit of John Mayer, p. 29). To the contrary, all of the information to which Ameritech's own route planners have access should be made equally available

to new entrants. To the extent any truly proprietary information is involved, commercially reasonable confidentiality agreements restricting the use of such information to route planning and access-related uses can be adopted.

28. If Ameritech does not fully disclose complete information regarding existing infrastructure to new entrants' engineers, new entrants will be unable to consider all available route options. In AT&T's experience this has resulted in gaps in knowledge and delays in the selection of facilities available to AT&T which impacted AT&T's ability to plan its network in the most efficient and cost effective manner. Thus, a new entrant may incur substantial additional costs in building its network that could be avoided if its engineers and route planners have access to this additional information.

29. Under the federal rules, as I understand them, Ameritech is already under a duty to respond to any request for access within 45 days. However, while Ameritech's witness John Mayer references process steps Ameritech continues to develop in granting access, he does not state when these processes will be developed and in place. Nor does the interconnection agreement contain a list of process steps and time intervals required to complete them. Therefore, if a new entrant makes a request for access today, Ameritech has established no process to handle that request and respond within

the 45 day time limit established by 47 CFR §1.403(b). Given the 45 day time limit established by the FCC to undertake all investigations necessary to determine whether to deny access, there is no legitimate reason not to provide maps and similar information regarding the availability, capacity and condition of conduit or pole attachments within five (5) business days after a request is made for that type of information. However, Ameritech does not state how long it will take before responding to a request for maps. Likewise, in order to meet the 45 day time limit for all responses, it would be reasonable for Ameritech to provide within ten (10) business days of an inquiry, for a physical examination of the conduit, manholes, poles and all attachments. Such an inspection is necessary to determine if there are safety or engineering issues or whether capacity must be expanded by modification to make access available and the examination at this stage gives sufficient time to explore all options for increasing capacity should that be necessary to make access available. During and after this period, Ameritech should be required to allow the requesting party's personnel to enter and inspect manholes or pole structures in order to confirm usability or assess the condition of the structure and to determine whether capacity can be expanded if necessary.

30. The purpose of having defined process steps with established deadlines in place now, and not offered to be established at some future date is to insure that Ameritech's "promises" that it "will" implement a process do not remain just that, unfulfilled promises. Indeed, Ameritech proposes to have no deadlines for make ready work, stating instead that it will negotiate individual due dates on make ready jobs. (Affidavit of John Mayer, p. 32). Furthermore, unless the process steps for access are defined in specific terms approved by the Commission, Ameritech can unilaterally modify the process whenever it wishes, irrespective of the effect any such modifications to the process it ultimately may establish have on new entrants. AT&T's own experience with Ameritech is illustrative of what happens when Ameritech has no deadlines, but is free to define all the rules and change them at will.

31. AT&T has been dealing with Ameritech for many years in connection with long distance and has also been involved in requesting access in connection with its ongoing effort to build a local network in Illinois. In one situation, AT&T asked Ameritech for access to a specific section of conduit. AT&T was told that this segment of conduit was available and was given a price for the "make ready" costs. AT&T gave the go ahead to do the "make ready" work and paid the amount quoted by Ameritech in advance. AT&T was then given an available date for that section of conduit. However, a short

time prior to the available date, Ameritech told AT&T that the section could not be made ready and was unavailable. As a result, AT&T was forced to re-initiate the process of securing alternative facilities for that segment of the route, at a significant time and cost penalty to AT&T.

32. In another instance, in connection with AT&T's efforts to build a fiber optic backbone ring in Illinois, AT&T has seen many instances where Ameritech's promised performance has not been anywhere near its actual performance. In certain areas, AT&T has sought access to Ameritech's facilities for portions of the project. Despite the fact that Ameritech has agreed to make access available, and has agreed to specific dates to finish the make ready work for identified segments of the project, Ameritech has been repeatedly late in delivering the facilities to AT&T. A delay of three or four months has not been uncommon and longer delays have occurred in some cases. The delays have impacted AT&T's ability to coordinate other aspects of the work necessary to build its facilities. Given Ameritech's performance in cases where it has agreed to meet a specific deadline, Ameritech's bare promise that it will make access available is not credible in the absence of existing process steps, standards to judge Ameritech's performance, and actual measurement of Ameritech's performance and should not serve as evidence that Ameritech has met a requirement of the competitive checklist.

33. A final example, which illustrates an issue which could severely hamper a new entrant's ability to serve its customer, concerns the costs which Ameritech has sought to impose for access and use of distribution facilities. In certain instances, AT&T has applied for conduit and been given a "make ready" cost for a primary route. However, the cost was so high that it approached the costs of new construction. Thus, it would appear that Ameritech may have used the route selection process to attempt to reconstruct (at AT&T's expense) distribution facilities that Ameritech had allowed to fall into disrepair. Thus, the criteria by which Ameritech determines the amount of "make ready" work necessary and the costing methodology used in determining price quotes may be used by Ameritech to impose unnecessary costs on new entrants or to pass Ameritech's own maintenance and repair costs on to the new entrants under the guise of make ready work.

34. The Interconnection Agreement reserves to Ameritech the right to consider requests for interconnection of AT&T's attachments on Ameritech's structure with attachments of other attaching parties on a case-by-case basis (§ 16.20.2). Depending on whether Ameritech exercises its discretion in a nondiscriminatory manner, this contractual term could be implemented in a manner that frustrates competition. Only

experience will demonstrate to the Commission whether Ameritech is providing access in the manner required by law.

VERIFICATION

I, William G. Lester, do on oath depose and state that the facts contained in the foregoing affidavit are true and correct to the best of my knowledge and belief.

SUBSCRIBED AND SWORN to
before me this 7th day of
January, 1997.

Notary Public

"OFFICIAL SEAL"
Margaret M. Plucinsky
Notary Public, State of Illinois
My Commission Expires 05/11/99

SERVICE LIST
CASE NO. U-11104

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Attachment 1

AT&T
Report and Findings
on
Technical Solutions
Relative to Routing of
Local Operator Service and Directory Assistance
to the AT&T Switched Network

in the
Total Service Resale
or
Unbundled Network Element Environment

1. INTRODUCTION

One of AT&T's requirements for entry into the local market as a reseller of the Incumbent Local Exchange Carrier's (ILEC's) local service is the ability to selectively route AT&T customers' local Operator Service and Directory Assistance calls, and Customer repair and service inquiries to an AT&T Point of Presence over appropriate interconnection facilities using established dialing protocols (i.e., 0-, 0+, 411, 611 etc.) Driving this requirement is the need to eliminate the customer confusion that would be caused by an AT&T local services customer dialing Operator Service, Directory Assistance or Customer Service and hearing the ILEC's brand announced. Additionally, AT&T customers will expect accurate rate quotes, the ability to complete Calling Card calls, and at a minimum service parity with AT&T's own Long Distance Operator Service. As ruled by the Georgia Commission in Docket No. 6352-U, the ability of a competing carrier to utilize their own operators or custom "branded" Operator Service will enhance the ability of that entity to effectively compete. Additionally, in the FCC's order on Interconnection (Docket No. 96-325, issued August 8, 1996), the FCC stated that "customized routing will enable a competitor to direct particular classes of calls to particular outgoing trunks, which will permit a new entrant to self-provide, or select among other providers of, interoffice facilities, operator services, and directory assistance ... Thus, our requirement that incumbent LECs provide customized routing as part of the 'functionality' of the local switching element applies, by definition, only to those switches that are capable of performing customized routing. An incumbent LEC must provide to the state commission that customized routing in a particular switch is not technically feasible."

AT&T's interest in directly providing this service arises from four primary factors:

1. AT&T has an existing world class Long Distance Operator Service and Directory Assistance platforms with proven experience handling these calls.
2. AT&T will use these platforms to provide its new local customers with the best call experience possible - the same nationally consistent "look, feel, and sound" upon which AT&T customers have come to rely on and to expect.
3. The AT&T brand is a key part of the Operator Service's interface experienced by our Long Distance customers. Should the ILEC utilize its own brand of local Operator Service or Directory Assistance, AT&T customers could easily be confused as to who is their local service provider.
4. Accurate AT&T rate quotes and availability of Calling Card services.

The technical findings in this report are applicable to AT&T local customer service when provisioned under the Total Service Resale (TSR) or an Unbundled Network Element scenario when using the ILEC end office.

Technically feasible solutions exist for the ILEC to provide selective routing of Operator Service and Directory Assistance calls from AT&T (Total Service Resale and Unbundled Network Element) customers to an AT&T Point of Presence over appropriate interconnection facilities. AT&T requested the ILEC to provide selective routing arrangements that will enable AT&T customers to reach an AT&T operator just as an ILEC customer can reach the

ILEC operator today (i.e., by dialing 0+, 0-, 411, or 555-1212, etc.). AT&T also requested to be provided with access to AIN (Advanced Intelligent Network) triggers as an option to implement selective routing.

In this section, three potential solutions are described that AT&T believes can be effectively implemented in the near term, either singly or in combination to meet industry needs for open competition and network integration. Selective routing may be implemented using the Line Class Code[1] (e.g., Class of Service), Advanced Intelligent Network (AIN), and Advanced Services Interface (ASI) Proxy, The Line Class Code (LCC) solution is a switch-based solution that provides scaleable capability to address direct routing in support of the competitive choice. There are successful call flow tests performed on several vendor switches using this solution. There are also other routing solutions such as Advanced Intelligent Network (AIN) and Advanced Services Interface (ASI) Proxy that provide viable architectural alternatives to a variety of selective routing capabilities in the local exchange. There may be other approaches that we will evolve over time, given that the telecommunication industry has tremendous capability to adjust to new market requirements. However, AT&T requires an immediate solution which Line Class Codes provides. Like Local Number Portability (LNP), there is an interim approach to resolving network routing needs and a longer term solution to network routing. We agree that a long term solution[2] is possible but this should not impede AT&T's ability to provide Operator Service and Directory Assistance to its customers.

As a reseller of the ILEC's network services (Total Service Resale or Unbundled Network Element), a set of Line Class Codes, which represents a subset of the ILEC's own set of LCCs, could provide an immediate solution for selectively routing Operator Service and Directory Assistance calls to an AT&T Point of Presence.

The ILEC's concern with the potential increase in the number of carriers that may be interested in selective routing, and therefore increasing the possibility of memory resource exhaustion (e.g., depleting the available switch memory), appears overly conservative and ignores technological advances and improvements that will address selective routing capability on a large scale. An example is the switch vendors' planned expansions of memory capacity enabling the increase in call store, program store, and office / customer data (e.g., LCC - RAC). The ILEC, with input from AT&T, and working with the switch vendor community, can manage and / or expand switch resources as necessary to keep pace with evolving industry requirements.

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[1] LCC (Line Class Code) in the Lucent 5ESS® switch terminology, describes the class of service. A telephone Number and a Line Equipment Number provide an LCC and a Rate Area Number. These two inputs are used to access routing and service information.

[2] AT&T has submitted a contribution (Issue No. 292) titled "Identification and Specialized Routing of End User Lines Served by Competitive Local Service Providers" to the Industry Carriers Compatibility Forum on 7/18/96.

The AT&T Operator Service (e.g., 0+intraLATA toll and local calls, and 0-) and Directory Assistance (e.g., 411 or 555-1212 or NPA-555-1212 (intraLATA)) are separate services which are independent of each other. Although this report addresses the technical feasibility of selective routing for both Operator Service and Directory Assistance, the regulatory bodies can rule independently on each service. If a solution is found to be unsatisfactory for one of the services, but can support the other service in a satisfactory manner, AT&T requests the flexibility to select the option best suited for one of the services, and to seek an alternate solution for the second service. Regulatory leadership, by requiring selective routing, will motivate the industry to move towards competitive choice and equal access of local service. Once we get started, the industry and market economics will drive a robust solution.

2. DEFINING AT&T SELECTIVE ROUTING NEEDS

AT&T requested the ILEC to selectively route the AT&T customers' Operator Service calls (e.g., customer dials 0+ for intraLATA toll and local calls, and 0- to reach an operator) from the end office to a trunk group to be routed to the AT&T Point of Presence.

AT&T also requested the ILEC to selectively route the AT&T customers' Directory Assistance calls (e.g., customer dials 411) from the end office to a 10-digit number (e.g., 900-xxx-xxxx) specified by AT&T. This would result in the Directory Assistance call completing at an AT&T Directory Assistance work center. Customers would not be billed for a 900-number call but for Directory Assistance service. The 900-number is solely used for network routing purposes and should not be offered to local customers as a valid number to dial for Directory Assistance.

3. GUIDE TO THE DOCUMENT

The remainder of this document presents three technical solutions which are alternatives for implementing selective routing of Operator Service traffic, with expansion to include Directory Assistance traffic.

Section 4 – Line Class Code

Section 5 – Advanced Intelligent Network

Section 6 – Advanced Service Interface (ASI) Proxy

Line Class Code Solution uses end office routing techniques to alter the destination of AT&T's local Operator Service and Directory Assistance calls. It requires replicating and customizing selected office Line Class Code - Rate Centers and associated routing translations. It is a capability that is currently available in different switch types to selectively route the Operator Service calls to the AT&T Point of Presence.

Advanced Intelligent Network (AIN) Solution is a network architecture to provide a means for the ILEC to offer advanced features and services to customers. AIN is another potential access method that can be used for selective routing of local Operator Service and Directory Assistance traffic to the AT&T Point of Presence. AIN trigger provisioning in the switch is required in conjunction with signaling connectivity to routing application logic / data platform such as Service Control Point (SCP). The SCP contains the service logic instructions for routing of Operator Service and Directory Assistance calls. The key to implementation of the service logic is the provisioning in the ILEC switch of the AIN triggers

Advanced Services Interface (ASI) Proxy Solution enables the local Directory Assistance calls to be connected to an ILEC or other service provider Intelligent Peripheral (IP) whose application software would determine the appropriate call treatment and instruct the ILEC end office how to route and handle the call.

For each of the three solutions, there is a brief description of the technology, call flows, and summary evaluations including AT&T's estimates of incremental resource impacts, where appropriate.

4. LINE CLASS CODE SOLUTION

4.1 Technical Feasibility of the Line Class Code Solution

4.1.1 Overview

The Line Class Code Solution uses end office routing techniques to alter the destination of AT&T's local Operator Service and Directory Assistance. It requires replicating and customizing selected office Line Class Code - Rate Centers and associated routing translations. It is a capability that is currently available in different switch types to selectively route the Operator Service calls to the AT&T Point of Presence.

To distinguish the AT&T customer lines and to selectively route their Operator Service traffic to the AT&T Point of Presence, it is necessary for the ILEC to provision a set of new classes of service assigned to AT&T (e.g. , Line Class Code - Rate Center (LCC-RAC) for the 5ESS®, Chart Column[3] for the 1A ESS™, and Line Attribute[4] (*lineattr*) for the DMS-100), or an equivalent scheme for other end office switch types and generics. AT&T customer lines with similar attributes and capabilities are provisioned with the same LCC. Other LCCs may be defined to accommodate AT&T customers with different sets of line attributes and capabilities. The same LCCs are defined in each ILEC end office switch with AT&T customer line terminations, and these LCCs represent a subset of the ILEC's own set of LCCs and an incremental increase in the LCCs for the end office. This solution may also be utilized to address the selective routing of local Directory Assistance calls.

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[3] Chart Column is the screening class of service for the Lucent 1A ESS™.

[4] linecattr is Nortel's terminology for the data that defines LCC-RAC (Line Class Code - Rate Center Area) and other screening / routing data for a particular line or sets of lines.

If LCC implementation is selected by the ILEC as the means to route Operator Service and Directory Assistance calls to the AT&T network for ILEC Resold Services or Unbundled Network Element, AT&T's requirement is a set of Line Class Codes which represents a subset of the ILEC's own set of LCCs. This would result in an incremental increase in demands for the LCCs for the end office.

The purpose for duplicating the LCC (e.g., duplication of 1FR, for example), is the available switch-based mechanism for implementing the capability to distinguish AT&T customer lines and to route AT&T Operator Service or Directory Assistance traffic to the AT&T Point of Presence for the specific service type (e.g., 1FR) currently offered by the ILEC. Using this switch-based solution, the 1FR service type is duplicated as is, except for the need to specify a different routing for the Operator Service or Directory Assistance (0+, 0-, 411), to the AT&T Point of Presence, and is assigned a new name (AFR, for example). The duplication of the LCC is not a new or different service; it is used for the provisioning of AT&T local service customers to identify the AT&T customer and for selective routing of Operator Service and Directory Assistance calls in a Total Service Resale or Unbundled Network Element environment. AT&T customers will be provisioned by the ILEC with the AFR service type instead of the 1FR service type that identifies an ILEC local service customer.

In the following subsections, a switch-specific description of the technology, call flows, and resource consumption assessment are provided for the 5ESS®, 1A ESS™, and DMS-100 end offices.

4.1.2 5ESS® End Office

4.1.2.1 Selective Routing of AT&T Operator Service or Directory Assistance Call

When customers switch to AT&T, their line is provisioned with an AT&T LCC-RAC. The AT&T LCC-RAC is equivalent to the ILEC LCC-RAC for the same class of service. For local 0+ calls, a unique Route Index is provided to route via a dedicated AT&T OSPS-EIS (Extended Inband Signaling) trunk group (with Modified Operator Service FG-C signaling)[5] to a specified AT&T Point of Presence. For 0- calls, a unique Route Index is provided to route via an AT&T OSPS-EIS trunk group (with Modified Operator Service FG-C signaling) to the AT&T Point of Presence. The 0+ and 0- traffic can be routed via the same trunk group as is used today for routing the AT&T interLATA 0+ and 00- traffic to the AT&T Point of Presence, if the trunk group exists. If the Operator Service traffic is routed via an access tandem, it must be routed from the ILEC end office to the access tandem then via a dedicated trunk group with Modified Operator Service FG-C signaling to the AT&T Point of Presence. For the local Directory Assistance (DA) service, it is necessary to have the 411 number converted to a 900-number and route the call over Direct FGD trunks to the AT&T Point of Presence. The non-AT&T lines terminating at the end office are not affected.

4.1.2.2 Provisioning an AT&T Line Class Code

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[5] Refer to Bellcore LSSGR document module *GR-690-CORE*, Issue 2, October 1995, Table 3-7 Operator Service Signaling for AC Calls

For the 5ESS®, the Line Class Code (LCC) - Rate Center (RAC) solution uses routing techniques to identify the destination of 0-, 0+intraLATA toll and local, and local DA traffic. The technique requires some replication of the ILEC's LCC-RACs and screening for AT&T. A Line Class Code (LCC) is defined as a generic template (switch vendor documentation TG-5, DIV 3, SEC. 3S, May, 1996). Based on information provided by switch vendor documentation, the maximum assignable number of Line Class Codes is 6000[6]. It is a list of parameters (pointers) that can specify unique routing treatment (for 1-3 digits, 7 digits, or 10 digits dialed by a user of the line), line characteristics combinations to support service offerings to customers at the end office, blocking parameters, rate center designation, screen, and charge indexes. The LCC template defines the line characteristics and routing or blocking treatment and is assigned to a customer's line during the customer provisioning process. The same LCC template is used for all customers that have the same line characteristics and routing or blocking treatment. Provisioning of the LCC is part of the normal switch processing for the customer's telephone service; the switch looks for the variables within the LCC for code execution during call processing.

Each LCC is associated with a Screening Code (SC) and a Digit Analysis Selector (DAS). The DAS will reference the same Local Digit Interpreter Table (LDIT) and Primary Digit Interpreter Table (PDIT) used by the existing lines in the switch. The Rate and Route screening, keyed by the line's SC and the LDIT / PDIT code index, will provide routing data for the call.

To specify the destination of an ALEC's (Alternate Local Echange Carrier's) 0-, 0+intraLATA toll / local, and special services (e.g. 411) calls, the following replications and customizations are required: selected Line Class Codes - Rate Centers (v4.1), Digit Analysis Selectors (DAS - v9.1, for routing 411 calls only), Screening Codes, and screening (Rate and Route - v10.10), and Code Conversion (v9.4 for 411 only).[7]

4.1.2.3 Sample Operator Service Call Flows

Assume AT&T customer is provisioned with the AT&T Line Class Code and Route Index. The following are the standard switch call flows.

0- Call:

(Steps 2 - 5 are functions currently performed by the ILEC originating local switch.)

1. AT&T customer dials 0-.
2. AT&T Line Class Code is checked. (Customer was provisioned with this LCC which identifies an AT&T customer.)
3. Appropriate screening is performed.
4. Perform digit analysis and retrieve Code Index.
5. Perform Rate and Route screening and retrieve Route Index based on AT&T implication in LCC (step 2).

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[6] Refer to Lucent documentation 235-600-110, *5ESS® - 2000 Switch Translation Data Manual*, July, 1996, for RC-LCC relation.

[7] As noted in switch vendor documentation TG-5 for detailed information on Recent Change Views.